

FORMING SIDEWALL OXIDE LAYERS FOR TRENCH ISOLATION

Abstract of the Disclosure

A shallow trench isolated integrated circuit may be formed by creating an oxidation enhancing region at the corner between a semiconductor structure surface and the trench. This region may be formed by ion implantation or solid source diffusion in a way which decreases crystallographic defects. As a result, oxidation at the trench may be enhanced without adverse effects on leakage currents. In some embodiments, the impurity laden region is formed first and the trench is etched through the region leaving an impurity laden remnant at the corner between the trench and the structure surface.